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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/921,438	08/03/2001	Timothy L. Minich	GP-301110	6750

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CHRISTOPHER DEVRIES
General Motors Corporation
Legal Staff, Mail Code 482-C23-B21
P.O. Box 300
Detroit, MI 48265-3000

EXAMINER

HARRISON, MONICA D

ART UNIT

PAPER NUMBER

2829

DATE MAILED: 09/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/921,438

Applicant(s)

MINICH ET AL.

Examiner

Monica D. Harrison

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-- The MAILING DATE of this communication appears n the cover sheet with th correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on applicant's amendment filed 5/21/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 6-12 is/are rejected.
- 7) ☒ Claim(s) 3-5 and 13-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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The amendment filed on 5/21/03 has been entered.

Specification

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claims 13-20 are objected to because of the following informalities: Regarding claim 13, the specification does not support all claimed subject matter. Since claim 13 is an independent claim all claims that depend from 13 are also objected to. By inserting the new paragraph in the specification, it is unclear of what the applicant is trying to convey. The insertion does not read smoothly into the specification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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Claims 1,2, and 6-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Davis et al (6,474,278 B1).

2. Regarding claim 1, Davis et al discloses a target wheel for providing timing information for a crankshaft in the internal combustion engine (Figure 3, reference 23), the target wheel comprising a substantially circular member having a plurality of teeth (Figure 3, reference 40), said teeth having variable widths, and said teeth having rising edges distributed in non-uniform fashion and falling edges distributed in uniform fashion (Figure 3, references E1-E18), wherein said target wheel provides speed and timing information for multiple internal combustion engine configurations (column 4, lines 27-43).

3. Regarding claim 2, Davis et al discloses wherein said plurality of different internal combustion engine configurations are selected from the group comprising four, five, six, eight, ten and twelve cylinder engines (column 2, lines 24-67)

4. Regarding claim 6, Davis et al discloses a crankshaft coupled to a drive train of the vehicle (Figure 2, reference 12), a sprocket coupled to said crankshaft to drive a camshaft in the vehicle (Figure 2, references 20 and 21) and a target wheel having a plurality of teeth (Figure 2, references 15 and 23), said teeth having variable widths, and rising edges and falling edges, said falling edges irregularly positioned on said target wheel, said rising edges regularly positioned on said target wheel (Figure 3, reference 40); whereby said target wheel provides process data for operation of a plurality of internal combustion engine configurations (column 3, lines 28-67).

5. Regarding claim 7, Davis et al discloses a cam phaser coupling said crankshaft to said sprocket (column 4, lines 1-26).

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6. Regarding claim 8, Davis et al discloses a sensor sensing said irregular surface to provide an electrical output (Figure 2, references 16 and 18).

7. Regarding claim 9, Davis et al discloses an electronic controller (Figure 1, reference 22).

8. Regarding claim 10, Davis et al discloses electrical output comprising a pulse string (Figure 4A, reference 52).

9. Regarding claim 11, Davis et al discloses electronic controller includes engine control software (column 3, lines 41-54).

10. Regarding claim 12, Davis et al discloses wherein said engine configurations are selected from the group comprising four, five, six, or eight cylinder engines (column 4, lines 44-50).

Allowable Subject Matter

11. Claims 3-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

12. McCombie, US 5,361,629 discloses a misfire detection apparatus and method for detecting misfire in cylinders of an internal combustion engine. This patent reads on claims 1 and 2 (Figures 1 and 2; column 3, lines 59-68 thru column 4, lines 1-50).

13. Bryant et al, US 5,794,171 disclose a predictive model that is derived for subsequent use in a misfire detector in an internal combustion engine. This patent reads on claim 1 (Figure 3; column 4, lines 27-67 thru column 5, lines 1-6).

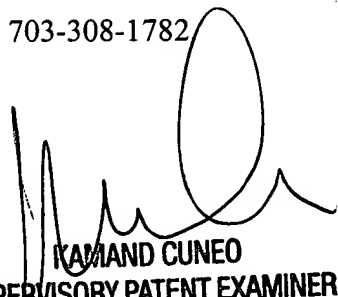
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica D. Harrison whose telephone number is 703-305-4758. The examiner can normally be reached on M-F 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammie Cuneo can be reached on 703-308-1233. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

Monica D. Harrison
AU 2829

mdh
August 20, 2003



KAMMIE CUNEO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800